Materials and methods: We audited records of Ph +ve ALL paediatric patients diagnosed between January 2005-December 2014 who underwent treatment with institutional ALL protocol (MCP-841) with or without Imatinib. No patient underwent SCT. EFS was calculated from date of diagnosis to date of relapse/progression while OS was calculated from date of diagnosis to date of last follow up.
Results: A total of 104 patients were diagnosed with Ph+ ALL. The median age 11 years vs 7.9 years, Male:Female ratio of 4:1 vs 2:1 and median WBC count 88,000 cells/mm3 vs 40,514 cells/mm3 was higher compared to west. Similarly CNS involvement: 4 were CNS II (5%) and15 were CNS III (20%) was higher compared to 6% in west. Also, 86% children had NCI high-risk disease compared to 60% in west. Of 94 patients who started therapy at our centre, 72 patients received Imatinib during their treatment: 29 during induction and 43 post-induction. Fourteen did not receive Imatinib and 8 abandoned therapy before response evaluation. Median overall survival (OS) of the entire cohort was 18 months and estimated 5-year OS and EFS was 29% and 23% respectively. OS for patients who received Imatinib at any time during therapy was 38%. However, none of the patients who did not get Imatinib survived for 3 years. Five-year EFS in patients who received Imatinib in induction was significantly worse at 23% compared to 34% for those who started it post-induction (p=0.03). However, there was no statistical difference in toxic deaths and morphologic remissions between the groups. The 5-year overall survival of NCI low-risk group 57% compared to 24% in NCI-high risk group.
Conclusion: Ph+ ALL is more common in India and presents with higher age and white cell count, as well as high prevalence of CNS involvement and NCI high-risk disease. Outcome of Ph+ALL without Imatinib and stem cell transplantation is dismal. Combined therapy including aggressive chemotherapy and Imatinib improves outcome but outcome of NCI-High risk disease is suboptimal.
Keywords: Philadelphia-Positive Acute Lymphoblastic Leukemia, Imatinib, Children

LM-1_V1.9
EXPRESSION OF B LYMPHOCYTE ANTIGEN IN PEDIATRIC B-CELL PRECURSOR ACUTE LYMPHOBLASTIC LEUKEMIA: AIIMS EXPERIENCE

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Background: Majority of mature B-ALL blasts express B lymphocyte antigen (CD20) on their surface however, only 30- 50% of B-cell precursor ALL blasts express CD20. The incongruous expression of CD20 in BCP-ALL patients and its prognostic relevance has been reported in adult and pediatric cases but with discrepant results. In view of this we aimed to determine the prognostic impact of CD20 expression in pediatric BCP-ALL patients treated at our department.
Aim of the study: To investigate and correlate the expression profile of CD20 in precursor B-cell ALL patients with treatment outcome.
Methodology: Mononuclear cells were isolated using ficoll-histopaque layering technique from bone marrow (BM)/peripheral blood (PB) samples. Immunophenotyping of blast cells at diagnosis was done by multiparametric flow cytometry. Expression of antigens on leukemic cells was determined by using a 6-dimensional space formed by 2 light scatter parameters (forward scatter [FSC] and side scatter [SSC]) and 4 fluorescence-associated characteristics. The existence of blast cell population was established on the basis of abnormal antigen expression profiles of the blasts as compared to the control.
Results: A total of 65 pediatric patients (median age 9 yrs, range 1-17 yrs; M: F 4:1; median TLC-17.4x10^9/l, range 1.1-715x10^9/l) were studied. CD20 positivity was defined as more than 20% of leukemia blasts expressing surface CD20. Expression of CD20 was present in 37/65 (57%) patients with BCP ALL. A worse outcome has been observed in our patients expressing CD20 than those without the expression. Disease free survival at 20 months in CD20-positive and CD20-negative groups (33% [95% CI, 10-54] versus 89% [95% CI, 54-96], P=0.002) was statistically significant. Overall survival at 18 months (46% [95% CI, 26-61] versus 65% [95% CI, 40-78], P=0.01) was also poorer in CD20-positive group than CD20-negative group.
Conclusion: Expression of CD20 on leukemic blasts found to be higher in our pediatric ALL patients and is associated with poorer outcome as compared to mostly reported in various studies. This should be explored further in Indian scenario with regard to prognosis.

LM-1_V1.10
PEDIATRIC PLASMABLASTIC LYMPHOMA – TEN YEARS EXPERIENCE IN A TERTIARY CARE CENTRE IN INDIA

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Introduction: Plasmablastic lymphoma is a rare form of non Hodgkin lymphoma. Little data exists on its epidemiology and outcome in children. We aimed to study the clinical, epidemiological profile and outcome of plasmablastic lymphoma in our centre.
Methods and materials: This is a retrospective analysis of 10 years data from January-2006 to December-2015 at Tata Memorial Centre, Mumbai. Analysis included all children who presented to our hospital during this period and diagnosed to have plasmablastic lymphoma by histopathology and immunohistochemistry. Patients received various multiagent chemotherapeutic regimens. The outcome of these patients was analyzed.
Results: Thirteen cases of pediatric plasmablastic lymphoma were diagnosed and treated in our center during the study period. Eleven were male and 2 female. Median age at diagnosis was 12 years (Range1-15 years). HIV infection was detected in all except 3 children. Four patients had B symptoms at presentation. Various sites of involvement at diagnosis were lymph nodes (9 patients), paranasal sinuses (7 patients), bone (4 patients), pleura (1 patient), orbit (1 patient) and soft tissue (1 patient). Bone marrow and CSF were involved in 5 and 2 patients respectively, while 2 patients had involvement of both. Patients were given various multi agent chemotherapeutic regimens like MCP-842, CVEP (Cyclophosphamide, Vincrstine, Etoposide, Prednisolone), EPOCH (Etoposide, Prednisolone, Vincristine, Cyclophosphamide, Adriamycin) and oral metronomic chemotherapy (6-Thioguanine, Etoposide). All patients with HIV infection also received antiretroviral therapy. At last follow up, 4 patients were disease free, 6 patients died of disease progression, 1 patient died of cause unrelated to disease and 2 patients lost to follow up (one patient HIV positive and one HIV negative).
Conclusion: Plasmablastic lymphoma is an aggressive non Hodgkin lymphoma in children. Majority of cases are HIV positive and present with disseminated disease. The most common sites of involvement include lymph nodes and paranasal sinuses. Despite intensive chemotherapy outcome is poor.

LM-1_V1.11
FEASIBILITY OF A MITOXANTRONE-BASED INDUCTION PROTOCOL IN CHILDHOOD ACUTE MYELOID LEUKEMIA: FOLLOW UP EXPERIENCE OF 2 YEAR COHORT FROM TATA MEDICAL CENTER, KOLKATA

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Background: Acute myeloid leukemia (AML) is a difficult disease to treat in resource limited settings. Data from India is limited to identify trends/shortcomings, and plan remedial strategies.
Objective: To analyze the clinical profile and outcome in children with AML treated with mitoxantrone-based induction protocol.
Method:
Study type: Retrospective observational study.
Study Setting: Undertaken between January 2014 and December 2015 in Tata Medical Center, Kolkata.
Inclusion criteria: <18-years, presenting with a diagnosis of de novo AML.
Exclusion criteria: Acute promyelocytic leukemia, Down syndrome and secondary AML.
Classification & Stratification: Genetic classification by a combination of karyotyping with G banding technique and FISH analysis for t(8;21), inv 16, t(15;17), MLL gene rearrangements in all children.
Stratified based on the WHO classification to standard, intermediate and high-risk groups.